

CLAIMS

1. A system for creating a colorant pattern in porous material, comprising:
 - a sealable vacuum chamber with at least one outlet; and
 - at least one barrier gasket for creating at least two zones in a porous material, wherein each of the at least one outlet is couplable to one of the at least two zones.
2. The system of claim 1, wherein the at least one outlet comprises at least two outlets, and wherein each of the at least two outlets is couplable to one of the at least two zones.
3. The system of claim 1, further comprising at least one vacuum pump couplable to the at least one outlet for evacuating the one of the at least two zones.
4. The system of claim 1, further comprising at least one valve for controlling a vacuum to the at least one outlet.
5. The system of claim 1, further comprising a template comprising at least one colorant flow guide for guiding a colorant under vacuum across and into porous material and toward the at least one outlet when in contact with the template to create a colorant pattern in the porous material.
6. The system of claim 5, wherein the at least one colorant flow guide comprises at least one channel in the template.
7. The system of claim 5, wherein the at least one colorant flow guide comprises at least one wire on the template.

8. The system of claim 5, wherein the at least one colorant flow guide comprises at least one channel formed on the template.

9. The system of claim 8, wherein the at least one channel comprises at least two barriers on the template spaced apart such that the at least one channel is created therebetween.

10. The system of claim 5, wherein the at least one colorant flow guide comprises at least one conduit with a plurality of openings along a length thereof.

11. The system of claim 5, wherein the template is hollow.

12. The system of claim 11, wherein the template comprises a first face and a second face, and wherein the at least one colorant flow guide comprises a first flow guide on the first face and a second flow guide on the second face.

13. The system of claim 5, wherein the template comprises at least two openings, and wherein the at least one colorant flow guide is situated between the at least two openings.

14. The system of claim 5, wherein the at least one colorant flow guide allows for at least a slight variation in consecutive patterns created.

15. The system of claim 1, wherein the sealable vacuum chamber is cylindrical.

16. The system of claim 1, further comprising a colorant.

17. The system of claim 1, further comprising at least one colorant feed external to the sealable vacuum chamber.

18. The system of claim 17, wherein the at least one colorant feed is coupled to the at least one colorant flow guide.

19. The system of claim 17, wherein the colorant feed comprises an open-atmosphere colorant reservoir.

20. The system of claim 17, wherein the colorant feed comprises a closed-atmosphere colorant reservoir.

21. The system of claim 20, wherein the closed-atmosphere colorant reservoir comprises a syringe-type colorant reservoir.

22. The system of claim 17, further comprising at least one valve coupled to the at least one colorant feed for controlling an amount of colorant entering the sealable vacuum chamber.

23. The system of claim 1, further comprising at least one colorant feed internal to the sealable vacuum chamber.

24. The system of claim 23, wherein the at least one colorant feed is coupled to the at least one colorant flow guide.

25. The system of claim 23, wherein the at least one colorant feed comprises a collapsible bladder.

26. The system of claim 1, further comprising an excess colorant collector.

27. The system of claim 26, wherein the excess colorant collector comprises a trough below the at least one outlet.

28. The system of claim 26, wherein the excess colorant collector comprises a collection trap.

29. The system of claim 1, further comprising at least one of a controller and a processor for controlling the at least one of colorant entering the sealable vacuum chamber and colorant exiting the sealable vacuum chamber.

30. The system of claim 29, further comprising at least one vacuum pump couplable to the at least one outlet for evacuating the one of the at least two zones, wherein at least one of the at least one of a controller and a processor controls at least one of the at least one vacuum pump.

31. The system of claim 29, further comprising at least one valve for controlling at least one of colorant entering the sealable vacuum chamber and colorant exiting the sealable vacuum chamber, and wherein the at least one of a controller and a processor controls at least one of the at least one valve.

32. The system of claim 29, further comprising at least one colorant feed external to the sealable vacuum chamber, wherein at least one of the at least one of a controller and a processor controls colorant entering the sealable vacuum chamber from the at least one colorant feed.

33. The system of claim 29, wherein the at least one of a controller and a processor comprises at least one computer.

34. The system of claim 1, wherein the sealable vacuum chamber comprises at least two non-conforming sealing membranes, and wherein at least one of the at least two non-conforming sealing membranes also functions as a template.

35. The system of claim 34, wherein the at least one barrier gasket is coupled to the at least one of the at least two non-conforming sealing membranes.

36. The system of claim 1, further comprising at least one colorant flow guide for guiding colorant under vacuum across and into porous material and toward the at least one outlet to create a colorant pattern in the porous material.

37. The system of claim 36, wherein the sealable vacuum chamber comprises at least one nonconforming sealing membrane, at least one of the at least one nonconforming sealing membrane comprising the at least one colorant flow guide.

38. Apparatus for creating a colorant pattern in porous material, comprising a template with at least one colorant flow guide for guiding colorant along the flow guide when under vacuum, wherein the template is hollow.

39. A system for creating a colorant pattern in porous material, comprising:
a sealable vacuum chamber with at least one outlet; and
at least one external reservoir for providing colorant to the sealable vacuum chamber.

40. The system of claim 39, wherein the at least one reservoir is coupled to an outer surface of the sealable vacuum chamber.

41. The system of claim 39, further comprising at least one valve for regulating an amount of colorant entering the sealable vacuum chamber.

42. The system of claim 39, further comprising a template having at least one colorant flow guide for guiding colorant under vacuum across and into porous material and toward the at least one outlet to create a colorant pattern in the porous material.

43. The system of claim 42, further comprising a template, wherein the template comprises the at least one colorant flow guide.

44. The system of claim 42, wherein the sealable vacuum chamber comprises at least one colorant flow guide for guiding colorant under vacuum across and into porous material and toward the at least one outlet to create a colorant pattern in the porous material.

45. The system of claim 39, further comprising at least one barrier gasket for creating at least two zones in a porous material, wherein each of the at least one outlet is couplable to one of the at least two zones.

46. The system of claim 39, further comprising an excess colorant collector.

47. The system of claim 39, wherein the at least one external reservoir comprises an open-atmosphere reservoir.

48. The system of claim 39, wherein the at least one external reservoir comprises a closed-atmosphere reservoir.

49. The system of claim 48, wherein the closed-atmosphere reservoir comprises a syringe-type reservoir.

50. The system of claim 39, further comprising at least one of a controller and a processor for controlling the at least one of colorant entering the sealable vacuum chamber and colorant exiting the sealable vacuum chamber.

51. The system of claim 50, further comprising at least one vacuum pump couplable to the at least one outlet for evacuating the one of the at least two zones, wherein at least one of the at least one of a controller and a processor controls at least one of the at least one vacuum pump.

52. The system of claim 50, further comprising at least one valve for controlling at least one of colorant entering the sealable vacuum chamber and colorant

exiting the sealable vacuum chamber, and wherein the at least one of a controller and a processor controls at least one of the at least one valve.

53. The system of claim 50, wherein at least one of the at least one of a controller and a processor controls at least one of the at least one external reservoir.

54. The system of claim 39, further comprising a hollow template with at least one colorant flow guide for guiding colorant along the flow guide when under vacuum.

55. The system of claim 39, further comprising at least one valve for controlling a vacuum to the at least one outlet.